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EXAMINER

SONG, SARAH U

ART UNIT PAPER NUMBER

2874

DATE MAILED: 06/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/665,615

Applicant(s)

HEINE ET AL.

Examiner

Sarah Song

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☒ Claim(s) 21 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 0903.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## **DETAILED ACTION**

### ***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Information Disclosure Statement***

2. The prior art documents submitted by the applicant in the Information Disclosure Statement filed on September 22, 2003 have all been considered and made of record (note the attached copy of form PTO-1449).

### ***Drawings***

3. This application has been filed with seven (7) sheets of drawings, which have been approved by the Examiner.

### ***Claim Objections***

4. Claim 1 is objected to because of the following informalities: in line 5, Examiner suggests changing "wave guides" to —waveguides—. Appropriate correction is required.
5. Claims 7 and 8 are objected to because of the following informalities: Examiner suggests changing "basis", all occurrences, to —base—. Appropriate correction is required.
6. Claim 8 is objected to because of the following informalities: in line 2, Examiner suggests changing "is" to —are—. Appropriate correction is required.
7. Claim 8 is objected to because of the following informalities: in line 2, Examiner suggests changing "mat" to —matte—. Appropriate correction is required.
8. Claim 16 is objected to because of the following informalities: in line 3, Examiner suggests changing "an" to —a—. Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

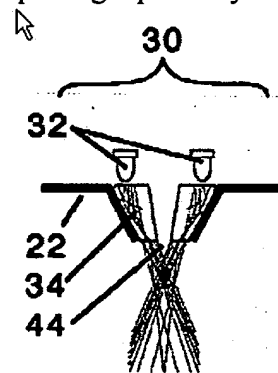
9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

10. **Claims 7, 12, 14, 17 and 19 are rejected under 35 U.S.C. 102(e) as being anticipated by Faludi et al. (U.S. Patent Application Publication 2003/0187331).**

11. Regarding claim 7, Faludi et al. discloses an imaging apparatus comprising a plurality of light-emitting diodes 32, which are arranged around optics 40 and 42, for indirect illumination of an examination area, and a single conical prism 34 having a base surface facing said light-emitting diodes, the cone angle of said conical prism being designed such that the light which is injected into said basis surface from said light-emitting diodes is totally reflected on an outer cone surface of said conical prism.



12. Regarding claim 12, the light-emitting diodes can be switched off selectively via switch 33.

13. Regarding claim 14, the conical prism has an axial central hole 44.

14. Regarding claim 17, a tubular attachment 22 is fitted on said conical prism and represents one part of a housing.

15. Regarding claim 19, the functional limitation is not a positive limitation and only requires the ability to so perform. The proximal end of the housing 24 is deemed to meet the functional

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language recited in the claim as it is designed such that a camera or additional optics can be plugged onto the housing via an adaptor.

***Claim Rejections - 35 USC § 103***

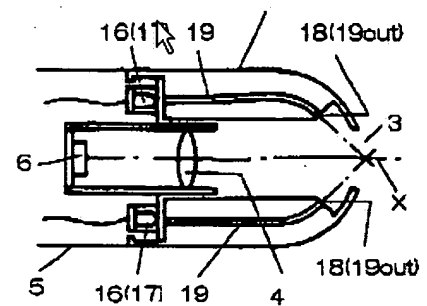
16. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

17. **Claims 1, 2, 3, and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Satoh et al. (U.S. Patent Application Publication 2003/0026110).**

18. Regarding claim 1, Satoh et al. discloses an imaging apparatus comprising a plurality of light-emitting diodes 16, which are arranged around optics 4 and AL, for indirect illumination of an examination area, and a plurality of optical waveguides 19, each of said optical waveguides being arranged in front of one associated light-emitting diode and having a light input surface which faces said associated light-emitting diode, said optical waveguides directing said associated light-emitting diode toward said examination area.

19. Satoh et al. does not expressly disclose that the optical fibers comprise an outer wall that totally reflects light emitted from said associated light-emitting diode toward said examination surface. However, it is well known in the art that



optical fibers guide light based on total internal reflection. Therefore, one of ordinary skill in the art at the time of the invention would have recognized that the optical fibers of Satoh et al.

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comprise an outer wall that totally reflects the light emitted from the associated light-emitting diode toward said examination area.

20. Regarding claim 2, Satoh et al. does not expressly disclose a lens arranged on the light input surface of each of said optical waveguides. Optical fibers comprising lenses arranged on the light input surfaces are well known in the art for improving coupling efficiency of a light source into the optical fiber. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a lens on the light input surface of the optical waveguides of Satoh et al. in order to improve coupling efficiency in to the waveguides.

21. Regarding claim 3, Satoh et al. discloses a polarization filters PL<sub>1</sub> and PL<sub>2</sub>, but does not expressly disclose the filter to be arranged between each of said light-emitting diodes and said optical waveguides. It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the polarization filters in between the light-emitting diodes and the optical waveguides in order to preserve the surface imaging capabilities discussed in Paragraph [0046].

22. Regarding claim 5, Satoh et al. discloses the light-emitting diodes to be selectively switched on/off (Paragraph [0041]).

23. **Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Satoh et al. as applied to claim 1 above, and further in view of Brennesholtz (U.S. Patent 3,805,048).**

24. Regarding claim 4, Satoh et al. discloses that the light-emitting diodes may be switched (Paragraph [0041]) but does not disclose a selectively switchable shutter arranged between said light-emitting diodes and said waveguides.

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25. Brennesholtz discloses a selectively switchable shutter 24 for blocking the flow of light between a light source 13 and an optical waveguide 25.

26. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the imaging apparatus of Satoh et al. with the selectively switchable shutter as an art recognized functional equivalent for on/off control of the light source.

**27. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Satoh et al. as applied to claim 1 above, and further in view of Shozo et al. (U.S. Patent 6,033,087).**

28. Regarding claim 6, Satoh et al. discloses the claimed invention but does not disclose light-emitting diodes of different wavelengths.

29. Shozo et al. discloses an imaging apparatus comprising light-emitting diodes of different wavelengths that collectively form white light (column 3, lines 34-50).

30. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the light-emitting diodes of different wavelengths in order to provide optimized contrast as taught by Shozo et al. (column 6, lines 28-31). Additionally, the apparatus of Satoh et al. enables the light-emitting diodes to be switched on an off (Paragraph [0041]).

**31. Claims 8, 9, 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Faludi et al.**

32. Regarding claims 8 and 9, Faludi et al. does not expressly disclose a lens arranged (e.g. integrally formed) on the base surface opposite an associated light-emitting diode. Prisms comprising integral lenses arranged on the light input surfaces and associated with respective

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light emitters are well known in the art for beam shaping. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide integral lenses on the base surface in order to provide the desired beam shaping.

33. Regarding claim 15, Faludi et al. does not disclose the central hole having a surface with a matte finish. However, matte finishes are well known in the art for preventing undesired reflections. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the central hole having a surface with a matte finish in order to prevent undesired reflections against the surface.

34. Regarding claim 16, Faludi et al. does not expressly disclose a contact plate. However, contact plates are well known in the art to be disposed on distal ends of optical apparatus. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a contact plate on a distal end of the central hole for the purpose of precluding contaminants and foreign particles from deleteriously affecting the optics.

35. **Claims 10 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Faludi et al. as applied to claim 7 above, and further in view of Satoh et al.**

36. Regarding claim 10, Faludi et al. discloses the claimed invention except for a polarization filter arranged between each of the light-emitting diodes and the conical prism.

37. Satoh et al. discloses a polarization filters  $PL_1$  and  $PL_2$ , disposed adjacent the light-emitting devices.

38. It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the polarization filters in between the light-emitting diodes and



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the conical prism in order to provide high contrast surface imaging capabilities discussed in Paragraph [0046].

39. Regarding claim 18, Faludi et al. discloses the claimed invention except for a hole, provided in the base surface or a ring adjacent to the base surface, in to which each of the light-emitting diodes project.

40. Satoh et al. discloses a ring of body member 5 comprising holes into which the light-emitting diodes project.

41. It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a ring into which the light-emitting diodes project for the purpose of easily providing a predetermined spatial relationship between the diodes and the base surface of the prism.

**42. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Faludi et al. as applied to claim 7 above, and further in view of Brennesholtz.**

43. Regarding claim 11, Faludi et al. does not selectively switchable shutter arranged between said light-emitting diodes and said conical prism.

44. Brennesholtz discloses a selectively switchable shutter 24 for blocking the flow of light between a light source 13 and an optical waveguide 25.

45. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the imaging apparatus of Faludi et al. with the selectively switchable shutter as an art recognized functional equivalent for on/off control of the light source.

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46. **Claim 13 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Faludi et al. as applied to claim 7 or 17 as applicable above, and further in view of Shozo et al.**

47. Regarding claim 13, Faludi et al. discloses the claimed invention but does not disclose light-emitting diodes of different wavelengths.

48. Shozo et al. discloses an imaging apparatus comprising light-emitting diodes of different wavelengths (column 3, lines 34-50).

49. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the light-emitting diodes of different wavelengths in order to provide optimized contrast as taught by Shozo et al. (column 6, lines 28-31). Furthermore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to enable the light-emitting diodes to be switched on an off for the purpose of selectively optimizing said contrast.

50. Regarding claim 20, Faludi et al. does not disclose a camera.

51. Shozo et al. discloses a camera 4 coupled to a housing of an imaging apparatus.

52. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to couple the camera of Shozo et al. to the housing of Faludi et al. for the purpose of image processing and analysis. Furthermore, since the optical components of Faludi et al. are provided in housing body 20 independent of additional external couplings, it appears that the coupling of the camera or additional optics would be such that previously adjusted optics (e.g. 40, 42) are not and cannot be misadjusted regardless of relative rotation between the housing and the additional couplings.

***Allowable Subject Matter***

53. Claim 21 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

54. The following is a statement of reasons for the indication of allowable subject matter: Gray et al. (U.S. Patent 6,093,043) discloses a connector comprising a spacer with a series of spring elements 4 arranged in the form of a ring, and a slide ring 6 which surrounds the spacer, releases said spring elements in an open position and provides an interlocking connection between component parts. However, the disclosure of Gray et al. is directed toward a cable connector. Gray et al. and Faludi et al. are clearly non-analogous art. Therefore, one of ordinary skill in the art would not have been motivated to modify the imaging apparatus of Faludi et al. with a cable connector of Gray et al. to provide the claimed adapter.

***Conclusion***

55. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Mullani (U.S. Patent Application Publication 2004/0174525) discloses a dermatoscope comprising selectively switched LEDs of various wavelengths, and polarizing filters.

56. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later


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invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sarah Song whose telephone number is 571-272-2359. The examiner can normally be reached on M-Th 7:30am - 6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on 571-272-2344. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Sarah Song  
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